

PROPAGATION BY AIR LAYER

Presented by
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Lychee
Guava
Pecan
Mango
Avocado
Peach
Persimmon
Apple

Wells & Owen
Tropical Trees

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☞ SUE R. WELLS (1918-2009)

☞ The original Lychee Lady

☞ Chemist

☞ Computer operator for the
Citrus Research Experimental
Station, Lake Alfred.



What is Air Layering?

- ❧ The Air Layer (also known as Marcottage)
- ❧ Method of propagation in which root formation is induced above ground.
- ❧ It is the preferred method of propagating the Lychee!

Why Air Layer?



Advantages

- ☞ The *Marcot* is a genetic clone of the mother tree
- ☞ Fruit will be identical to the mother
- ☞ Shorter maturity period
- ☞ Preserve / Recycle / Share

Air Layering Methods

∞ Dozens of recognized techniques

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** Simple ~ Compound ~ Inarching ~ Tip ~ Natural

*
** Mound ~ Trench

∞ Multitude of ways of achieving success

*
** Bucket ~ Cone ~ Plastic Bag

What Can Be Air Layered?

Lychee ~ Mulberry ~ Olive ~ Blueberry
Macadamia Nut ~ Hibiscus ~ Fig ...etc.

❧ Plus many unknown ornamentals!!!

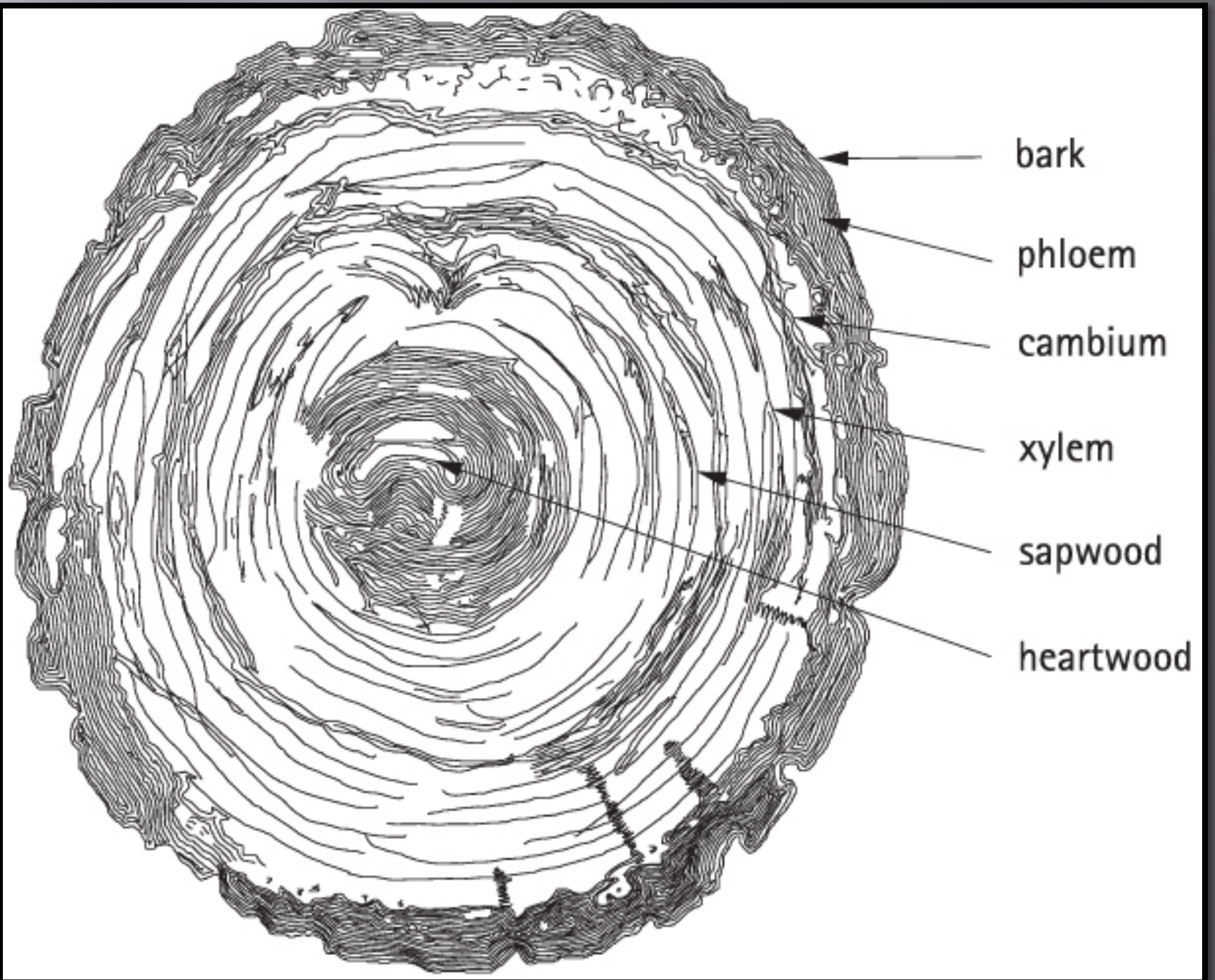
❧ When in doubt, just apply an air layer!

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* If it has a “woody” bark then it most likely will!

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* If it doesn't take then you have only lost a branch!

Basic Tree Structure

- ❧ **Bark** – the outer protection.
- ❧ **Cambium** – a layer of actively dividing cells.
- ❧ **Phloem** - the layer responsible for the transportation carbohydrates and other photosynthates **down** from the leaves to the roots.
- ❧ **Xylem** - the layer that transports water and mineral nutrients from the roots **up** to the leafy parts of the tree.



How Does Air Layering Work?

- ❧ Remove the bark, cambium, and phloem to create a girdled site.
- ❧ The Xylem and the heartwood remains intact.
- ❧ This allows water and nutrients to flow up to support the leafy end of the air layer and supports active growing.
- ❧ The carbohydrates and photosynthates that are being created and flowing down are prevented from flowing down past the girdled site and collect there.
- ❧ The carbohydrates and photosynthates collect at the girdling site.
- ❧ These nutrients, plus the presence of moisture in the sphagnum moss, cause dormant adventitious buds in the area to grow into roots.

Adventitious Buds



Root Growth Starting



Root Growth Developing



Ready to Harvest



Viable Tree Roots



Getting Started

☞ Tools & Supplies

- *
** Slip Joint Pliers
- *
** Sphagnum Moss
- *
** Large Bucket for soaking
- *
** 12" Aluminum Foil
- *
** 12" Plastic Wrap
- *
** Permanent Marker
- *
** Gloves
- *
** Calendar
- *
** 2 Plastic Spray Bottles*
- *
** Rooting Inducing Liquid (Optional)*

Rooting Compound

☞ Optional

☞ Fertilome, Cinnamon, Honey, Willow Water.

☞ Safety First

Prepare Sphagnum Moss

- ∞ Submerge in water for 24 hours
- ∞ Absorbs up to **20 times** its dry weight of water
- ∞ Absorptive and extremely acidic, it inhibits growth of bacteria and fungi

Dry Sphagnum



20.02.2011

Sphagnum Soaked 24 Hours



Make Bandage



08.06.2010

Add The Sphagnum Moss



Now You're Ready!



10/04/2015

Pick Your Branch



Remove Leaves



Girdle The Branch



Apply The Bandage



Job Complete



Recordkeeping

☞ Date your bandage

☞ Mark you calendar

☞ Make your notes so you can keep track of your success

How Long Does It Take?

☞ 4 – 8 weeks

☞ Time of year

☞ Temperatures

☞ This depends much on conditions out of our control

Harvest Your Air Layers

This is the fun easy part when your efforts are rewarded.



SUCCESS!



Soak 24 Hours!

- ☞ Prepare a bucket with a very weak feed
- ☞ Completely submerge the bandage end of the Air Layer
- ☞ Allow Air Layer to stand/soak in the water for 24 hours

Drain Bandage



28.10.2010

Remove Bottom Branch



Plant Your New Tree!

☞ Use 1 gallon pot

☞ Growing medium

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** No feed added - No moisture control added

☞ Water!

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** Keep Moist, however no wet feet! Mist the underside of the leaves too!!

Tempering!

- ☞ Remove all leaves except two (2)
- ☞ Water daily
- ☞ Protect from direct sun
- ☞ Protect from wind
- ☞ When flush appears...almost there!

What Can Go Wrong?

☞ Breakage (caused by wind/weather, wildlife ...etc.)

☞ Dry out...due to bird holes or perhaps thorns from an opposing branch.



Growth from those bird hole openings.





06/16/2015

- ❧ Opposing branch snag/tear the bandage open (dry out).



Other Issues

☞ Heal itself

☞ Too wet

☞ Theft



Thank you!

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a.k.a...

The Lychee Lady ∞

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